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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,355	01/12/2006	Gerold Schmitt	283253US0PCT	7830
22850	7590	08/21/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER ASINOVSKY, OLGA	
			ART UNIT 1796	PAPER NUMBER
			NOTIFICATION DATE 08/21/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/564,355	SCHMITT ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	OLGA ASINOVSKY	1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/12/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The preliminary amendment of 01/12/2006 is noted.

#### ***Claim Rejections - 35 USC § 112***

1. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The “partner” of the initiator in a component C is not clear. There is no evidence in the present specification for description of term “partner.” A chemical formulation of a composition in the present claims is indefinite.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 8-9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Quis et al U.S. Patent 6,620,876.

Quis' 876 discloses an aqueous monomer/polymer composition comprising a polymer (A) and a polymerization of a second ethylenically unsaturated monomer (B), column 1, lines 45 through column 2. A component (A) is produced by the polymerization of first ethylenically unsaturated monomer by an aqueous emulsion polymerization in the

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presence of at least one polymerization initiator such as **a peroxide including dibenzoyl peroxide or dilauroyl peroxide**, column 2, line 20 and claim 11 at column 8. The **amount of (A)** component is from **1% to 50 wt%**, column 2, line 22. The amount of (A) polymer can be present in the broad range of from 1 to 99 wt.%, column 1, line 48. The amount of (A) polymer in Quis' 876 is overlapped the ranges of claimed (A) polymer in **the present claims 1, 2, 3, 4, 5**. The dispersion of (A) is formed by polymerization of (alkyl)(meth)acrylate including polar 2-hydroxyethyl methacrylate, column 3, line 3. The ethylenically unsaturated monomers for the dispersion of component (A) and component (B) can be the same or different, column 3, lines 8-12. The component (B) can include ether ester such as 2-(2-(2-ethoxyethoxy)ethoxy)ethyl methacrylate and 2-(2-butoxyethoxy)ethyl methacrylate, and optionally crosslinker such as 1,4-butanediol dimethacrylate, column 3, lines 5-6 and 28, for **the present claims 1, 2, 3, 4, 5**. The component (B) is produced in the presence of amine, such as N,N-dimethyl-p-toluidine or N,N-bis(2-hydroxyethyl)-p-toluidine, column 3, lines 36-40, for **the present claim 5**. The amine compound works like accelerator/activator in the polymerization process. Quis' 876 discloses the claimed monomer/polymer composition produced in the presence of peroxide initiator system which consisting of organic peroxide/amine, column 3, line 45. Quis' 876 discloses a redox initiator system comprising a peroxide and an accelerator/activator such as an amine derivative, for claimed component (C). The amount of polymerization initiator is 0.1 to 5% by weight, column 7, line 57, for **the present claims**. The amount of the polymerization activator is 0.1 to 5 wt.%, column 7, line 61, for **the present claims**. The composition has good

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mechanical properties and possesses a high level of storage stability, column 1, line 41. The aqueous monomer/polymer compositions are used as binders for road marking paints, floor coating composition, coating materials and sealing compositions, abstract and column 6, lines 48-56. The composition can include filler such as titanium dioxide and chalk, working examples. Claimed fields of using the aqueous monomer/polymer composition are readable in the **present claims 6, 8, 9, and 11**. Since there is no termination of the polymerization process for forming a polymer (A), an organic peroxide as an initiator/oxidant is still present on at least on the surface of the resulting polymer particle to promote further polymerization of a secondary ethylenically unsaturated monomer in the presence of an activator/accelerator, column 3, lines 59-65. Thus, the claimed composition comprising a polymer (A) and monomer (B), and a redox initiator system is fully anticipated by the disclosure in Quis' 876.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quis et al U.S. Patent 6,620,876 as applied to claims 1-6, 8-9 and 11 above, and further in view of Frankel et al U.S. Patent 5,252,675.

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6. Quis does not disclose a casting resin composition for claim 7 and a dental composition for claim 10. Claimed dental composition in claim 10 is open for being a dental adhesive or a molding dental composition. The desired type of a dental composition is depending on the crosslinking degree/effect of the resulting composition.

7. Frankel discloses an aqueous dispersion of water-insoluble latex polymer which is modified by additional ethylenically unsaturated monomer comprising at least one monomer having at least two sites of alpha,beta-ethylenic unsaturation for the purposes to reduce tacky property, column 4, lines 60-68. A polymerization initiator is a redox system having peroxide and accelerator, column 8, lines 7-15. The acrylic monomers are used for producing a water-insoluble latex polymer which are modified by additional monomers having at least two sites of alpha, beta-ethylenic unsaturation, column 9, line 20 through column 14. The aqueous dispersion of improved water-insoluble latex polymer can be used as adhesive, column 15, line 23, or in formulation water-based caulks and sealants, column 15, line 34. The composition can be processed by molding into shaped articles, column 19, line 27, and extruded into sheet materials, column 20, lines 1-21; therefore a dental application is readable as a type of molding application.

Both references disclose acrylic based composition produced in the presence of redox initiator system in two polymerization stages and in the presence of multifunctional acrylic monomer such as dimethacrylate derivative monomer.

It would have been obvious to one of ordinary skill in the art to use a monomer/polymer composition in Quis invention produced by using redox initiator system wherein the

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resulting composition is formulated for making a molding material by teaching in Frankel invention because the resulting composition produced by polymerization of a multifunctional monomer in a second stage polymerization exhibits greatly reduced surface tack and an increase hardness and is used for molding application, Frankel, column 29, lines 66-68 and column 20, line 7; and, thereby, obtain a dental application as a type of molding application.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References have been considered. The closest reference to Quis et al Patent 6,620,876 having Pub. No, 2002/0068785 under X category in the International Search Report is discussed above.

Other reference to Quis et al Patent 7,049,355 having Pub. No. 2002/0002259 cited under X category discloses a composition for floor coating. A composition is based on (A) of a (meth)acrylate comprising a multifunctional (meth)acrylate such as 1,4-butanediol dimethacrylate, column 2, line 30; (B) comprising a pre-polymer of ethylenically unsaturated monomer in the form of polyvinylacetate and/or polystyrene, column 6, lines 30-31; and redox system (C) including peroxide compound such as dibenzoyl peroxide and an accelerator including N,N-bis-(2-hydroxyethyl)-p-toluidine, column 7, lines 55-67. The **redox initiator system is readable in the present claims 1, 2, 3, 4, 5**. The initiators are used in an amount in the range of 0.1 to 10 wt%, column 8, line 27. The **amount of the initiators is readable in the specified range in the present claims**. The presence of specified accelerator and peroxide compound in the

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redox system is readable in **the present claim 5**. The formulation of claimed component (A) is readable in Quis' 355 invention. The proportion of the **component (A) is limited to 50 wt %** or less, column 5, lines 66-67. The amount of component (A) is **overlapping in the claimed range from 0.8 to 70 wt %**. Quis' 355 discloses the polymers which serve to regulate flexibility properties and shrinkage, as stabilizers, skin forming agents, as well as spreading improvers, column 6, lines 41-43. An additive such as filler can be present, column 8, line 51.

The difference is that Quis' 355 does not disclose that a polymer (A) is produced via aqueous emulsion polymerization. Also, the difference is that Quis discloses a pre-polymer (B) of an ethylenically unsaturated monomer, whereas the present claims require a monomer.

Schroder et al Patent 6,509,086 under X category discloses acrylic based resin in the presence of redox initiator system comprising organic peroxide and accelerator. The backed composition is cold-curing reactive (meth)acrylate system applied onto the reverse of the acrylic polymer moulding.

EP 0 561 352 under X category belongs to Patent Family to Patent 5,376,746 to Skoultchi. Reference discloses a two-part initiator system useful in acrylic adhesive composition. The initiator system comprises an organoboron amine complex and an aldehyde activator.

Patent 4,296,006 to Bugdahl et al cited under X category discloses a binder for coating composition based on a mixture of an unsaturated beta-hydroxy ester with copolymerizable monomers in the presence of a redox system.



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EP1 249 221 cited under X category. Reference belongs to Patent Family to Kimura et al Patent 6,759,449. Kimura discloses a dental adhesive composition comprising two parts of (A) comprising a polymerizable monomer comprising an acidic-group containing polymerizable monomer and (B) comprising a spherical filler consisting of a non-crosslinking polymethylmethacrylate in combination with a non-crosslinking polyethyl methacrylate ; and (C) a polymerization initiator. There is no definition of an initiator system.

None of the cited references discloses that “a component of a redox initiator system mainly absorbed in the polymer particles.”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLGA ASINOVSKY whose telephone number is (571)272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.A.

Olga Asinovsky  
Examiner  
Art Unit 1796

August 17, 2008

/Randy Gulakowski/

Supervisory Patent Examiner, Art Unit 1796